

Claims

[c1] What is claimed is:

1. Scribe lines for increasing a utilizable area on a wafer, the wafer comprising a plurality of dies, the scribe lines comprising:
 - at least a first scribe line arranged in a first direction in a first gap of the dies, the first scribe line having a first width; and
 - at least a second scribe line arranged in the first direction in a second gap of the dies, the second scribe line having a second width narrower than the first width.

[c2] 2. The scribe lines of claim 1 wherein the first scribe line comprises at least an alignment mark for aligning elements on different dies.

[c3] 3. The scribe lines of claim 1 wherein the first scribe line comprises at least a test key for performing a quality test on the dies.

[c4] 4. The scribe lines of claim 1 wherein the first width is approximately between 100 and 500 micrometers.

[c5] 5. The scribe lines of claim 1 wherein the second width is approximately between 10 and 50 micrometers.

[c6] 6. The scribe lines of claim 1 wherein the second scribe line is provided for dicing the wafer.

[c7] 7. The scribe lines of claim 1 wherein the wafer is scribed by supplying a mechanical stress on the scribe lines.

[c8] 8. The scribe lines of claim 1 wherein the wafer is scribed by performing an etching process on the scribe lines.

[c9] 9. The scribe lines of claim 1 further comprising a plurality of scribe lines arranged in a second direction, the scribe lines arranged in the second direction comprising various scribe line widths.

[c10] 10. The scribe lines of claim 9 wherein the second direction is perpendicular to the first direction.

11.The scribe lines of claim 1 wherein the dies are in the same shapes and sizes.

12.The scribe lines of claim 1 wherein the dies comprise various die shapes.

13.The scribe lines of claim 1 wherein the dies comprise various die sizes.

14.Scribe lines on a wafer, the wafer comprising a plurality of dies, the scribe lines comprising:
a plurality of first scribe lines positioned in gaps of the dies, each of the first scribe lines comprising a predetermined pattern; and
a plurality of second scribe lines positioned in gaps of the dies, the second scribe lines being narrower than the first scribe lines.

15.The scribe lines of claim 14 wherein the predetermined pattern comprises an alignment mark for aligning elements on different dies.

16.The scribe lines of claim 14 wherein the predetermined pattern comprises a test key for performing a quality test on the dies.

17.The scribe lines of claim 14 wherein the first scribe lines comprise at least an arranging direction.

18.The scribe lines of claim 14 wherein the second scribe lines comprise at least an arranging direction.

19.The scribe lines of claim 14 wherein the dies are in the same shapes and sizes.

20.The scribe lines of claim 14 wherein the dies comprise various die shapes.

21.The scribe lines of claim 1 wherein the dies comprise various die sizes.

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